I've been practicing restorative dentistry for more than 17 years, and during all but three months of that time, I've utilized chairside CAD/CAM dentistry on nearly a daily basis in my practice. Three months out of dental school, I purchased my first chairside CAD/CAM system — the CEREC 2 — on the Internet. The system arrived in my office with an owner's manual written in German; so that was my introduction, initiation and education in chairside CAD/CAM dentistry. During the next 17 years, I upgraded my system, improved my technique and began to teach others.

I trained clinicians, technicians and dental assistants on the basics, advanced techniques and even the future of CAD/CAM dentistry. I've trained thousands of dental professionals during the years and have heard and seen it all: the good and the bad, the perceptions and the realities. I've recently switched brands of systems, but not the quality of care.

Chairside CAD/CAM dentistry is only a vehicle to the result: quality patient care. The fundamentals of restorative dentistry, clinical skills, material understanding, proper diagnosis and treatment planning are required to drive any system to excellence. Allow me to share with you some of the common statements relating to CAD/CAM dentistry that I've heard, which like most things, are based on a lack of understanding, personal biases or a lack of firsthand experience that often generates these misconceptions.

_ Perception: 'Only one system works'_

I've recently switched systems; specifically, from the CEREC system to the E4D Dentist system. I can tell you both systems can create beautiful, well-fitting restorations. Each one does it in a little different method — one uses powder, one takes more images and gathers more data — but both are capable of successfully changing everything in a restorative practice: control of variables, convenience for the patient, dental team motivation and the bottom line. There are other differences in the systems — such as in software, milling, manufacturers, education, support and distributors — but they both work probably better than you've ever imagined. You owe it to yourself, your practice, your team and your patients to check them both out.

More important than the system is you: your attitude and ability to change (for the better) your team's involvement and your clinical skills. The incorporation of any technology (digital X-rays, patient management, lasers, magnification) typically makes you a "better" clinician by providing more information to make better decisions, and chairside CAD/CAM dentistry is no different. Being able to see your preparations on a large screen, to rotate, zoom and view from any angle will improve your evaluation of your preparations and your soft-tissue management. Yet, it isn't the system, it's the dentistry. Both systems will allow you to get where you want to go, but you have to drive.

_ Reality: It's not the system; it's the dentist and the team._

_ Perception: 'I can figure it out by myself'_

Seventeen years ago, the only CAD/CAM education I could find was by trying to translate an owner's manual from German just so I could turn on the CAD/CAM system. Today there is a plethora of educational opportunities: you can join proprietary websites with video lessons; you can purchase complete DVD sets of interactive learning opportunities; or attend basic training sessions, most of which are set-up by private clinicians that offer to show you "their" way. More than four years ago, D4D Technologies (the E4D guys) clearly recognized deficiencies in many of these methods and introduced a novel approach to education and support. From the very beginning, D4D instituted mandatory training and education and offered unlimited remote support with every purchase. The company also implemented the "team approach" to chairside CAD/CAM dentistry by offering a revolutionary certification program for dental assistants called the CAD/CAM Dental Designer (CDD).

Knowing dentists, I'm sure that when most of them first hear they are required to attend training before they can get the system in their office, they look at that as an unnecessary hassle. However, let me tell you that education and support is the most important aspect of your successful journey to CAD/CAM dentistry — not only for you, but also for your team. Included in each E4D system purchase is not only training for you, but also for one of your assistants; and this includes everything, i.e., trans-
portation, accommodations and a guarantee for a great experience. Too often, I’ve seen compromised basic education in order to up-sell or move someone toward advanced education opportunities. While there is a right time for advanced courses, it varies by individual and by experiences and shouldn’t be predetermined at basic training.

In addition, most educational experiences enlighten the students during the course, but then fall short on follow-up and compliance once the course is over. D4D Technologies addresses this with a third day of education in your office called integration. Soon after your system is set up, a clinical “integration” specialist will arrive at your office and assist you for “the first day of the rest of your life with digital dentistry.” Then the true support kicks in with Support on Sight (SOS), which is also included with the system. One of the advantages of being introduced to E4D CAD/CAM dentistry during the Internet age is the requirement and advantage of having every customer online, which means an Internet access connection is mandatory for every E4D System. That’s so dental technicians, dental assistants and hardware and software experts, part of the E4D SOS team, can log into your system (when requested) and remotely provide customer support. No more trying to tell someone over the phone what your screen looks like because the SOS team can take control of your system, help with designs, diagnosis of your hardware and also answer any questions about the operation of your system.

Reality: Education and support makes all the difference in the world of CAD/CAM.

_Perception: ‘My patients don’t care about the benefits of chairside dentistry’

If you feel this way, it’s a good bet you haven’t asked them or you aren’t a patient-centered practice. It isn’t just being able to offer these restorations in one appointment, in one day, the next day or by the weekend, but more about being able to say “Yes!” to any patient inquiry. Chairside CAD/CAM dentistry gives you complete control of the entire process as well as many more options to provide quality care to your patients instead of always having to say, “We’ll see you in two weeks.”

While there is nothing wrong with the two-week turnaround we’ve become accustomed to (or better said, locked into), why is that the only option?

Disregarding when you are dealing with sensitivity or changing the occlusal scheme, why not offer the patient the option of getting it all done today, or “Let’s prep on your way into work and seat on your way back from work.” In today’s economic times, being attentive to patients’ needs, concerns (leaving work too often) and convenience factors (running errands while the restorations are milling) is what will delineate those practices that flourish vs. simply survive. The same reasons you’re using to consider staying open late on some nights, adding weekend hours or adding an associate to cover more opportunities for patient care are the exact same reason you should consider offering additional treatment options and chairside CAD/CAM dentistry to your patient base.

Reality: All patients appreciate convenience.

_Perception: ‘Faster is better’

I cringe a bit when I hear some debates about the use of new technology that focus on how minutes can be saved through “bypassing this” or choosing a certain setting vs. the “correct one.” It’s curious because it’s as if our entire dental career has been spent waiting weeks for restorations and now we’re concerned about seconds. While time is money, it works both ways, on the front end and the back end. If by choosing a setting or making a material decision simply because it saves time on the front end (the dental appointment), you lose on the back end by compromising the ultimate success of the restoration (longevity and performance), which means that one’s priorities are now upside down.

While this question is most likely anecdotal and we may never have the true answer, I’d caution everyone to pause when they are told to select one material, system or procedure over the other simply because of a quantity of time saved. My advice is to choose based on the quality of the result and not the quantity of minutes you’ll save (or lose).

Reality: Dentistry is not a race; seek quality over quantity.

_Perception: ‘It costs too much’

While we all like to look at the price tag, in investments and in technology you need to look at the “real cost vs. benefit” or the return on investment (ROI) to your practice. It is much easier for us to casually pass by a $200 lab bill 30 times each month vs. the seriousness and hesitation we give to a $100,000 purchase. Take a few minutes with your accountant (or your spouse) to total the fabrication fees you’ve paid, or intend to pay in the next five years, and compare that to investing and making monthly payments on a technology that will allow you to most likely fabricate 70 percent of those cases yourself (essentially all the single units).

Next, add in all the tax benefits of Section 179 and capital equipment and you’ll likely discover that the reality is a real eye opener. In the majority of situations, the cost (money, time and personnel) of fabricating single units yourself with a chairside CAD/CAM system is probably less than what you are doing.
now. In fact, doing dentistry the way you have been doing is what “costs too much.”

*Reality:* Most likely, a chairside CAD/CAM system costs less than what you are doing now.

*Perception:* ‘Oh, I looked at it before and it’s not for me.’

Having spent 17 years defending and promoting chairside CAD/CAM dentistry, I’m pretty sure I’ve heard most of the excuses/reasons for not considering it. While there are certainly some valid reasons why it isn’t for everyone, some comments should be reconsidered: “Oh, I’ve seen patients come through my office that have hideous looking CAD/CAM restorations — no anatomy and just ugly — I’d never do those.” “They fit like socks on a rooster.” “I know Bob bought one, and now it sits in the corner.”

Indeed, technological development has gone through massive advances and what was once described as an “island of ceramic in a sea of cement” has now evolved to restorations that can have a marginal fit equal to or better than lab-fabricated restorations. So yes, early CAD/CAM promises don’t come close to today’s capabilities.

On the other hand, in that same practice that noticed the one CAD/CAM restoration, there were probably hundreds of chairside CAD/CAM restorations that went through undetected and assumed to be lab-fabricated restorations. The difference between a noticeable and an undetected CAD/CAM restoration is probably not the technology but rather the clinician. We have to understand that no restoration goes into the mouth without the conscious decision and the professional skill of the clinician. If less than ideal restoration is permanently placed, it isn’t so much a factor of one system or technique vs. another, but rather the clinical skill or judgment of the clinician.

For those who have simply taken their peers’ opinions, read blogs or had good and bad experiences but haven’t checked out today’s chairside CAD/CAM dentistry for themselves, I encourage you to do so. The first cell phone was introduced the same decade as the first CAD/CAM chairside dentistry system, and neither bears any resemblance to the technologies offered today. Take a fresh look for yourself.

*Reality:* If you haven’t looked at chairside CAD/CAM in the last year, you haven’t looked at all.

If you’ve read this far, hopefully it means that even if you may have shared some of the perceptions listed above, you’re now willing to consider the possibility that technology can offer improvements in restorative dentistry._

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**E4D makes the difference for Dr. Touchstone.**

"I know CAD CAM and E4D is my choice.”

- Alex Touchstone, DDS

Hattiesburg, MS